

Blueprint for Selecting Improvement Approach

Executive Summary

January 5, 2004

Background

- North Carolina state government is a large, complex organization that relies on its core business management systems (personnel/payroll, budget, accounting, tax & revenue, banking and retirement) to provide quality and timely services to its citizens, as well as to retain the trust of the public for fair and equitable collection of revenues, cost effectiveness of investments, and propriety of expenditures.
- Large, complex computer systems and sophisticated telecommunications networks are required to perform the business functions of the State.
- The current systems:
 - Run the risk of potential failure
 - Lack integration within function and across the enterprise
 - Utilize dated skills and technology
 - Do not fully meet today's business requirements
- Recognizing the possible adverse impacts of the continued use of these systems to the fiscal integrity of state government and the efficiency and effectiveness of its operations, the General Assembly authorized studies of the State's business management and human resource and retirement systems. These were subsequently consolidated into the State Core Business Systems Infrastructure Study.

Background

- Deloitte Consulting was engaged by the Office of the State Controller, per Ratified Senate Bills 166 and 1105 (2001 Session), to perform a study to determine the feasibility of developing and implementing a new business infrastructure, as well to assess the technology of the State human resources and retirement systems. This study consisted of two phases:
 - **Phase I – Inventory and Assessment - Completed April 4, 2003**
Goal: To develop a high-level inventory and assessment of the business systems, subsystems and integration/ interface components that provide financial, human resource, and payroll information and support to programs in State government. This included the identification of technical and business requirements, problems and risks, and the approximation of present costs incurred for operations and maintenance.
 - **Phase II – BluePrint for Selecting Improvement Approach – October 2003**
Goal: To determine and document viable options for implementing a business system infrastructure that would include integrated operations for budgeting, accounting, payroll, human resources, revenue collection, cash management, investments, and other business functions of State government. Descriptions, benefits, risks and observations for each alternative approach are provided, along with benefits, constraints and other relevant considerations.
- The detail report along with supplemental information may be accessed on the Office of the State Controller web site, www.osc.state.nc.us.

Objectives and Tasks

- During Phase I, Deloitte reviewed present systems to identify technical and business requirements, problems and risks, and the approximation of present costs incurred for operations and maintenance. Activities conducted were:
 - Interviewed key stakeholders by business area
 - Assessed existing systems using the following criteria:
 - ✓ Ability to satisfy current and future business and program requirements
 - ✓ Current technical architecture
 - ✓ Likelihood of risk due to failure
 - ✓ Primary short term risk factor
 - ✓ Cost-effectiveness for maintenance and operational efficiency for supporting business processes

- During Phase II, Deloitte developed a business case outlining the potential alternatives. Objectives of this phase were:
 - Build upon the information collected during Phase I
 - Develop multiple courses of action for the State
 - Communicate the degree of risk assigned to alternatives
 - Evaluate viable implementation alternatives
 - Recommend the best approaches to improve the State's core administrative business processes and infrastructure

Gaps in Existing Business Systems

➤ Current Situation:

- The State of North Carolina currently has many non-integrated business process “silos” that must exchange information between internal and external organizations to meet the requirements of managers, citizens, employees, vendors and other customers.
- The State’s core business systems are comprised of numerous aging applications linked through a series of batch interfaces. They require redundant manual data entry and can not easily communicate with each other.

➤ Summary findings from Phase 1 include:

- The State’s administrative systems do not easily and routinely communicate with each other (i.e., lack of integration)
- The core business systems were developed using what is now dated technology
- The inability to maintain qualified staff to support dated technology systems increases the risk of system failure
- At the present time, the State does not have a documented core business systems enterprise (statewide) strategy
- A general lack of employee, employer or customer self-service exists within today’s business system infrastructure
- The current business systems and processes available to support business functionality and management fail to meet industry best practices or efficient processing standards
- The inability of the core systems to meet agency business requirements results in the development and ongoing maintenance for a host of agency-based systems, and
- The current systems are generally paper based and signature driven and do not provide automated workflow, which would route documents electronically for review and approval

Findings by Business System

➤ The table below outlines the current status of each key core business system.

System ¹ / Age	Ability to Satisfy Current and Future Business and Program Requirements		Current Technical Architecture ²	Likelihood of Risk due to Failure		Primary Short Term Risk Factor
	Current	Future		Short-Term	Long-Term	
NCAS (Finance) / 9 Yrs	Acceptable	Acceptable	Dated	Moderate	High	Support Staff
CMCS (Cash Management) / 20+ Yrs.	Barely Acceptable	Not Acceptable	Outdated	High	High	Technology and Support Staff
Budget Systems / 16 – 20 Yrs.	Acceptable	Not Acceptable	Outdated	High	High	Technology and Support Staff
PMIS (Human Resources) / 25 Yrs.	Barely Acceptable	Not Acceptable	Outdated	High	High	Technology and Support Staff
Central Payroll / 20+ Yrs.	Barely Acceptable	Not Acceptable	Outdated	High	High	Technology and Support Staff
DOT Payroll / 30+ Yrs.	Barely Acceptable	Not Acceptable	Outdated	High	High	Technology and Support Staff
ITAS (Tax and Revenue) / 9 Yrs.	Acceptable	Acceptable	Dated	Low	Moderate	None of note
Enterprise Warehouse	Non-existent	Non-existent	Non-existent	Non-existent	Non-existent	New system

¹ While Core Banking, DOT Financial, eProcurement and retirement systems were inventoried during Phase I, they are excluded in this analysis due to finalized plans for replacement

² Current Technical Architecture ratings reflect experience factors and historical trends in technology.

Move Forward Strategy – Phase 2

- The following criteria were used to evaluate optional approaches for each system and develop comprehensive, enterprise action plans:
 - Risks including potential or likelihood of business, technical, and security failure
 - Current strengths and weaknesses of systems and their short-and long-term business and technical viabilities
 - Benefits, including cost savings, operational efficiencies, and better information for management decision-making and policy-formulation
 - Costs, including one-time investments and long-term ownership (such as upkeep and enhancement)
 - Current state budget condition and state/national economic realities
 - State priorities and funding cycles

- To prepare the business case, Deloitte evaluated several approaches to address the State's business needs. These alternatives were:
 - ERP (Enterprise Resource Planning) Implementation
 - Outsourcing
 - Stand Alone Packages
 - Custom Development
 - Enhancements to Current System
 - Best of Breed

Summary of Options

- The table below summarizes the three implementation options with descriptions and comments.

Alternatives	Summary Description	Comments
Option 1 – Leverage and Extend Existing Business Systems – HR/Payroll Replacement	<ul style="list-style-type: none"> ➤ Initiate Program Office structure ➤ Initiate risk reduction measures for existing systems high risk areas ➤ Identify and prioritize enhancements to legacy systems ➤ Define and implement an enterprise Data Warehouse to support legacy systems and future implementations ➤ Define HR/Payroll requirements, select and implement replacement strategy ➤ Develop strategies for future replacement of existing financials, budgeting, and tax and revenue systems 	<ul style="list-style-type: none"> ➤ Minimal initial costs/investment to address existing business needs ➤ Mitigates risks of immediate failure for key systems ➤ Increase likelihood of failure over time due to existing systems and projects
Option 2 - Phased Implementation by Best of Breed	<ul style="list-style-type: none"> ➤ Initiate Program Office structure ➤ Implement systems replacement - phased approach ➤ Define requirements, selection & implement: <ul style="list-style-type: none"> ▪ Data warehouse - year 1 ▪ HR/Payroll In house or outsourced – year 2 ▪ Finance and Budget implementation - year 3 ▪ Tax and Revenue systems - year 5 	<ul style="list-style-type: none"> ➤ A compromise between available up-front funding and the timely implementation ➤ Improves business processes ➤ Mitigate risks of business, technical, and/or security failures ➤ May be too costly in the near-term for the State's budget situation
Option 3 – Single ERP Solution	<ul style="list-style-type: none"> ➤ Initiate Program Office structure ➤ Support aggressive implementation of a phased ERP package(s) ➤ Define & Implement: <ul style="list-style-type: none"> ▪ HR/Payroll ▪ Data Warehouse ▪ Financial and Budget ▪ Tax & Revenue 	<ul style="list-style-type: none"> ➤ Best business and technical approach ➤ Provides most benefits ➤ Requires significant up-front investments ➤ Funding may not be available due to the State's current budget situation ➤ Major change management challenge

Benefits and Risks By Option

Option 1 Leverage and Extend Existing Business Systems – HR/Payroll Replacement	Option 2 Phased Implementation by Best of Breed	Option 3 Single ERP Solution
Benefits	Benefits	Benefits
<ol style="list-style-type: none"> 1. Recognizes Funding and Environmental Constraints 2. Minimal Initial Investment 3. Minimal Change Management Impact 4. Less Staffing Resources over a longer period of time 	<ol style="list-style-type: none"> 1. Phased Approach requires less change management effort 2. Small Initial Investment 3. Best Practices Functionality 4. Maintains Project Momentum 	<ol style="list-style-type: none"> 1. Completely Integrated Core Business Systems 2. Standard Statewide Technical Platform 3. Best Practices Functionality
Risks	Risks	Risks
<ol style="list-style-type: none"> 1. Increases Likelihood of Legacy System Failure 2. Loss of Momentum Resulting in Project Failure 3. Significant Delay in Benefits Realization 4. Requirements may be Out of Date at Time of Implementation 5. Requires Interfaces and Data Exchanges to Provide Integration 6. Employs Multiple Open Technical Platforms 7. New Technical Skills Required 	<ol style="list-style-type: none"> 1. Requires Interfaces and Data Exchanges to Provide Integration 2. Employs Multiple Open Technical Platforms 3. New Technical Skills Required 	<ol style="list-style-type: none"> 1. Major Change Management Challenge 2. Significant Initial Investment 3. Aggressive Implementation Approach 4. New Technical Skills Required 5. Potentially Dependent on Single Vendor 6. Costly Technical Infrastructure
Observations	Observations	Observations
Minimum initial cost/ investment to meet some business needs and to mitigate risk of immediate failure for certain key systems; Addresses current budgetary restraints.	Best compromise of business and technical approach; however, may be too aggressive for the current political and economic environment.	Ideal business and technical approach; Significant up front investment; Therefore, may not be feasible in current environment.

Strategies By Core Business System

- Based on the findings, the following short term and future action strategies were developed by core business system:

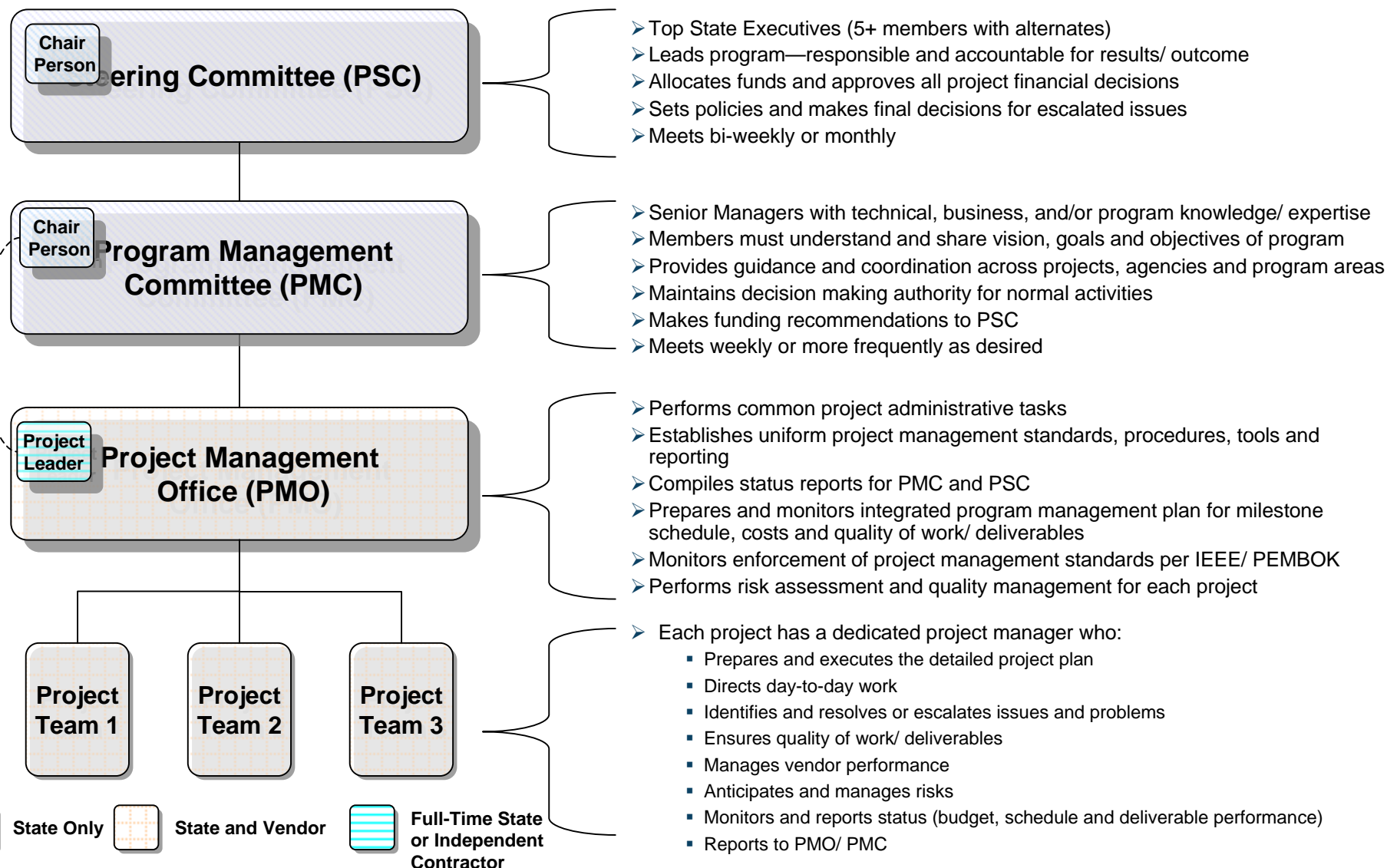
System	Short-Term Action ¹	Future Action ¹
PMIS (Human Resources)	Analyze process and define requirements	Install replacement package or outsource non-management functions
Central Payroll	Combine with Human Resource	Combine with Human Resource
DOT Payroll	Combine with Human Resource	Combine with Human Resource
Budget	Risk reduction and cost-effective enhancements	Develop replacement strategy
CMCS (Cash Management)	Risk reduction and cost-effective enhancements	Develop ERP replacement strategy
NCAS (Finance)	Risk reduction and cost-effective enhancements	Develop ERP replacement strategy
ITAS (Tax and Revenue)	Risk reduction and cost-effective enhancements	Reassess strategy for future solution
Enterprise Warehouse	Define goals and requirements for new system	Implement high priority modules in a time-phased manner

¹ Refer to Exhibit 1(Page 17) for projected time frame

Prerequisites For Success

- For the State to be successful in replacing its financial and human resource systems it must:
 - Ensure sufficient legislative and executive support throughout the implementation, including sufficient funding
 - Put in place a program governance structure to manage, direct and monitor the activities of the various project teams
 - Designate a fully-dedicated and empowered Program Manager, with an appropriate set of additional, committed and skilled functional and technical support resources, to perform contract negotiation, vendor management, and project management activities
 - Update/streamline its business processes to derive maximum value from the systems enhancement or replacement efforts
 - Prepare and implement a change management and communication plan. Large technology transformation efforts such as this will have a significant impact on the state organization and resources
 - Review the state technology infrastructure to ensure its adequacy to meet the State's needs and support the system functionality

Prerequisites for Success – Governance Structure



Necessary Next Steps

- Establish Governance Structure
 - Steering Committee
 - Program Management Committee
 - Project Management Office
- Initiate Data Warehouse
 - Develop Requirements
 - Select Software
- Initiate Human Resource/Payroll
 - Develop Requirements
 - Determine Outsourcing or ERP Package Decision
- Legacy System Enhancements (House Bill 941)
 - Develop Requirements
 - Cost Benefit Analysis

Representative State replacement strategies

- North Carolina ranks 12th among other US states in information technology spending.
- The following table depicts the status of states by annual spending and their progress with demands for new technology

No.	State	Systems Strategy Replacement	Annual IT Budget
1	California	<ul style="list-style-type: none"> ➤ Initiated procurement process for replacement of Human Resources and Payroll systems. ➤ Planned procurement for statewide Financials 	\$3,956,000,000
2	New York	<ul style="list-style-type: none"> ➤ Implemented PeopleSoft HRMS (HR/Payroll). ➤ Planned procurement for Financials 	\$3,582,240,000
3	Illinois	<ul style="list-style-type: none"> ➤ Installed AMS Financial application 	\$2,113,320,000
4	Florida	<ul style="list-style-type: none"> ➤ Outsourcing various functions including Human Resources and Payroll ➤ Financials slated for procurement process 	\$2,012,800,000
5	Ohio	<ul style="list-style-type: none"> ➤ Planning for the procurement process. ➤ Considering ERP software and outsourcing of Human Resources and Payroll 	\$1,829,008,000
6	Pennsylvania	<ul style="list-style-type: none"> ➤ Final stages of implementing SAP Financials, Human Resources, and Payroll 	\$1,822,600,000
7	Michigan	<ul style="list-style-type: none"> ➤ Installed RSTARS for financials ➤ Implemented Lawson Human Resources and Payroll 	\$1,548,804,000
8	Texas	<ul style="list-style-type: none"> ➤ State wide option for PeopleSoft with multiple agencies opting for package. PeopleSoft Financials and Human Resources installed 	\$1,508,768,277
9	Massachusetts	<ul style="list-style-type: none"> ➤ Installed AMS Financials, Human Resources, and Payroll 	\$1,147,951,696
10	Georgia	<ul style="list-style-type: none"> ➤ Installed PeopleSoft Financials, Human Resources, and Payroll 	\$1,119,243,872

Representative State replacement strategies (Cont'd)

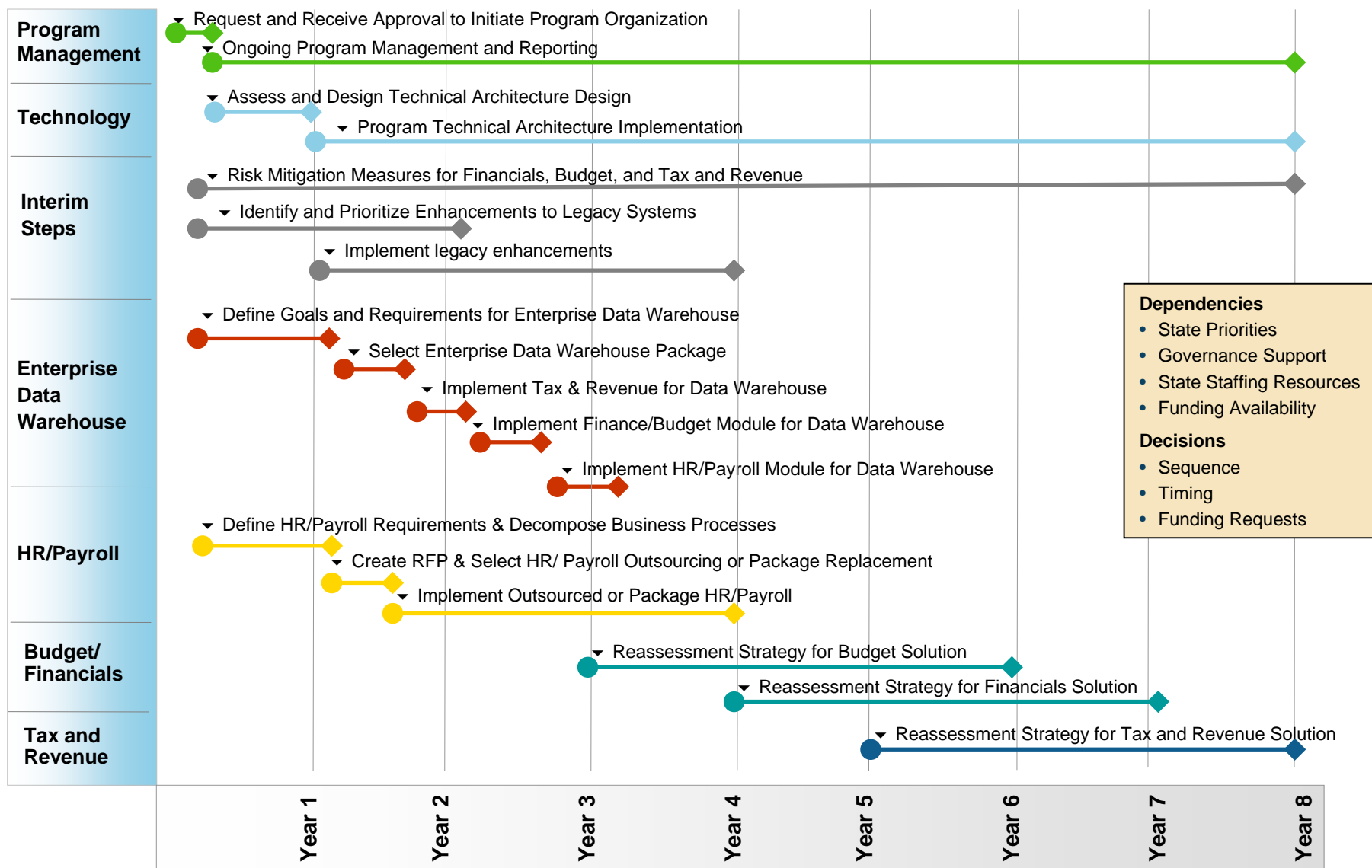
No.	State	Systems Strategy Replacement	Annual IT Budget
11	Washington	➤ Implementing PeopleSoft Financials, Human Resources, and Payroll	\$1,062,412,981
12	North Carolina	➤ Existing legacy applications	\$768,606,631
13	Missouri	➤ Implemented AMS Financials, Human Resources, and Payroll	\$766,372,000
14	Kentucky	Implemented AMS Financials	\$711,891,596
15	Arkansas	➤ Installed SAP Financials, Human Resources, and Payroll	\$679,594,248
16	Louisiana	➤ Implemented AMS Financials and SAP Human Resources and Payroll	\$627,339,554
17	Kansas	➤ Implemented STARS Financials and PeopleSoft Human Resources and Payroll	\$387,756,000
18	Nebraska	➤ Implemented JD Edwards Financials	\$244,754,307
19	Nevada	➤ Implemented AMS Financials, Human Resources and Payroll	\$222,482,000
20	Rhode Island	➤ Implemented Oracle Financials, Human Resources, and Payroll Pilot	\$213,760,000
21	Vermont	➤ Implemented PeopleSoft Financials, Human Resources, and Payroll	\$135,440,820
22	Montana	➤ Implemented PeopleSoft Financials	\$117,349,605
23	South Dakota	➤ Implemented HTE Financials	\$100,681,399

Proposed Options

- Based on the information gathered, three options were developed to address the State requirements over an eight year period. These options are:
 - Option 1 – Leverage and Extend Existing Business Systems – HR/Payroll Replacement
 - Option 2 – Phase Implementation by Best of Breed
 - Option 3 – Single ERP Solution
- The following three exhibits detail option sequencing for each major function or business area.

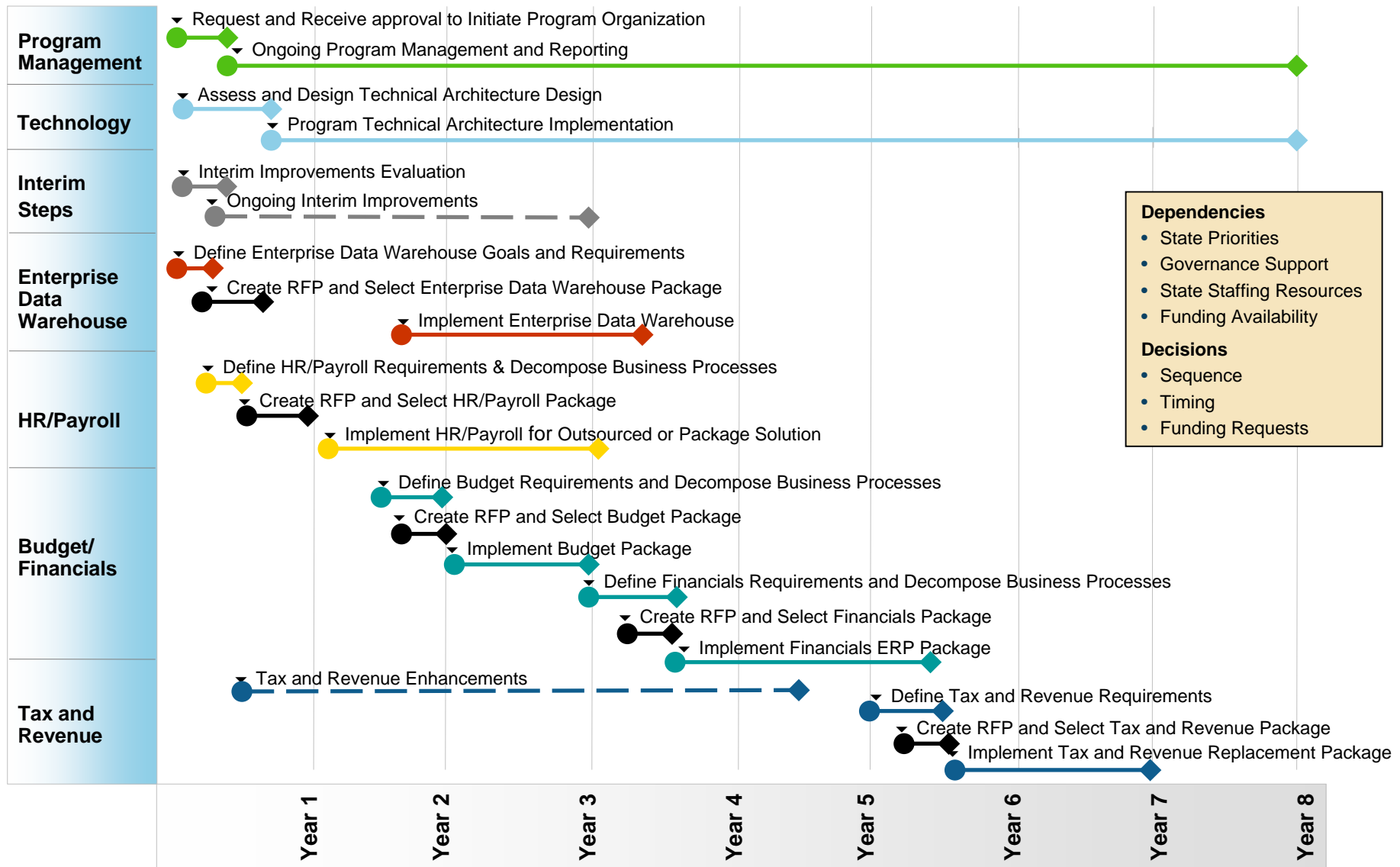
Option 1 — Leverage and Extend Existing Business Systems— HR/Payroll Replacement

EXHIBIT 1



Option 2 — Phased Implementation by Best of Breed

EXHIBIT 2



Option 3 — Single ERP Solution

EXHIBIT 3

